REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicant respectfully submits that the pending claims comply with 35 U.S.C. § 112, are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicant respectfully requests that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicant will now address each of the issues raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 112

Claim 38 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Since the applicant has amended the claim as suggested by the Examiner, the applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection.

Rejections under 35 U.S.C. § 102

Claims 1, 12, 20 and 36-38 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,483,870 ("the Locklear patent"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Independent claims 1, 12 and 20 are not anticipated by the Locklear patent because the Locklear patent does not teach forwarding data for establishing a session,

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or data prior to the establishment of a session, over only a selected link (and not over any non-selected links). These claims are reprinted below with this feature depicted in bold typeface:

> 1. A method for use in a system at a premises, the system having at least one terminal, a local area network including the at least one terminal, and coupled with units that terminate at least two communications links between the premises and a communications provider facility located off of the premises, the method comprising:
>
> a) accepting data on the local area network;
>
> b) determining whether the data accepted concerns establishing a connection or is part of an established connection;
>
> **c) if it is determined that the data accepted concerns establishing a connection, then**
>
> **i) selecting, at the premises, one of the at least two communications links based on a policy,**
>
> **ii) assigning the selected one of the at least two communications links to a session to be associated with the data accepted, and**
>
> **iii) forwarding the data accepted to only the selected one of the at least two communications links and not to any non-selected ones of the at least two communications links; and**
>
> d) if it is determined that the data accepted is part of an established connection, then forwarding the data accepted to the assigned communications link. [Emphasis added.]

> 12. A method for use in a system at a premises, the system having at least one terminal, a local area network including the at least one terminal, and coupled with units that terminate at least two communications links between the premises and a communications provider facility located off of the premises, the method comprising:
>
> a) accepting data originating from the at least one terminal and from the at least two communications links; and

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b) forwarding data towards the at least one terminal and towards the at least two communications links,

wherein, upon receiving a session request from the at least one terminal,

i) assigning, at the premises, one of the at least two communications links to the session of the session request based on a policy, and

ii) forwarding the session request to only the assigned one of the at least two communications links and not to any non-selected ones of the at least two communications links. [Emphasis added.]

20. A link selection unit for use in a system at a premises, the system (i) including a local area network including at least one terminal and (ii) terminating at least two communications links from the premises to a communications provider facility off of the premises, the link selection unit comprising:

a) means for accepting data from the local area network;

b) means for determining a connection state based on the data accepted;

c) means for selecting, at the premises, one of the at least two communications links when the means for determining a connection state determines that a connection has not yet been established;

d) **means for forwarding data for an unestablished connection only to the selected one of the at least two connection states and not to any non-selected ones of the at least two communications links**; and

e) means for forwarding data to a selected one of the at least two communications links when the means for determining a connection stated determines that a connection has already been established. [Emphasis added.]

The fact that the Locklear patent does not teach this feature is discussed below. First, however, the Locklear patent is briefly introduced.

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The Locklear patent concerns modifying the number of XDSL modems (and their associated twisted pair lines) associated with an existing session. (See, e.g., the ABSTRACT.) Such modification is described as being in response to loading information and threshold information. (See, e.g., column 1, lines 45-51.) More specifically, the Locklear patent states:

> An important technical advantage of the present invention is the establishment and maintenance of a communication session that includes at least one segment of communication between server 16 and device 12 using a modifiable number of twisted pair lines 22. In a particular embodiment, device 12 and/or server 16 monitor the loading information on active modems ***associated with the session***, compare the loading information to threshold information on the modems, and add or remove lines from active service as needed. Adding twisted pair line 22 to active service when data traffic is heavy and removing twisted pair line 22 from active service when data traffic is lower allows device 12 and server 16 to operate at higher bandwidths only when needed. Such operation optimizes the use of XDSL modems in device 12 and server 16. [Emphasis added.]

Column 5, lines 53-67.

As the applicant has previously mentioned, in the Locklear patent, modems are added or removed with respect to an ***established*** session (an established connection), not when establishing a connection (claims 1 and 20) or session (claim 12) where one does not exist. Accordingly, these claims are not anticipated by the Locklear patent for at least this reason.

The Examiner contends that lines 1-7 of column 5 and lines 44-67 of column 6 of the Locklear patent teach initiation of a new session by a terminal (20) on a LAN (18), wherein a communication line (22) is selected by communication device (12) using controller (72) to select a modem (50) and associated twisted pair communications line. (See Paper No. 07202005, page 6.) To reiterate, although the device 12 can add and remove modems once a session is established, ***the device 12 only "selects" modems and links once the session is already established***. During the

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act of establishing a session, the device ***"identifies"*** available twisted pair lines and communicates a session request over "each of the identified" available twisted pairs. Specifically, the Locklear patent states:

> To initiate a session, terminal 20 serviced by LAN 18 sends a signal to device 12. Alternatively, device 12 initiates its own session without signaling from LAN 18 or terminal 20. Device 12 ***identifies one or more twisted pair lines 22 that are available to communicate data with server*** 16. ***For each twisted pair line 22 identified for the session, device 12 communicates a request for service to server*** 16. [Emphasis added.]

Column 5, lines 1-7.

The claims were amended earlier (See Amendment mailed on August 19, 2005) to more clearly recite that one of at least two communications links is selected and used for forwarding data before the establishment of a session -- non-selected links do not forward such data. This is in contrast to the device 12 in the Locklear patent which identifies available links and communicates a session request over each and every one of the available links. Accordingly, independent claims 1, 12 and 20 are not anticipated by the Locklear patent for at least this reason.

Since claims 36-38 depend from claims 1, 12 and 20, respectively, these claims are similarly not anticipated by the Locklear patent.

Rejections under 35 U.S.C. § 103

Claims 2-11, 13-19 and 21-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Locklear patent in view of Mamakos, "A Method for Transmitting PPP Over Ethernet," Request for Comments 2526 (Internet Engineering Task Force (Feb. 1999)) ("the Mamakos RFC"). The applicant respectfully requests that the Examiner reconsider and withdraw this ground of rejection in view of the following.

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The Mamakos RFC defines a PPPoE standard. However, this standard does not compensate for the deficiencies of the Locklear patent with respect to base claims 1, 12 and 20 discussed above. Accordingly, dependent claims 2-11, 3-19 and 21-35 are not rendered obvious by the Locklear patent and the Mamakos RFC for the reasons discussed above with reference to claims 1, 12 and 20.

In addition, claim 4 which depends from claim 1, makes it clear that the establishment of a connection concerns the establishment of a session. PPPoE Active Discovery Initiation packets are normally broadcast. This is not inconsistent with the device 12 in Locklear, which sends a session request over each and every available link. However, the present invention prevents this normal case, and the possibility of looped acknowledge messages. Thus, these claims more clearly distinguish the present invention over the Locklear patent and the Mamakos RFC.

In addition, dependent claims 8, 19 and 24 clearly differentiate the policy factors considered by the present invention when selecting a link prior to session establishment, from the policy factors considered by the Locklear patent when determining whether to add a modem to, or remove a modem from, an established system.

Further, claims 26-28, which depend from claims 1, 12 and 20, respectively, further specify that data looping in the system, before the session is established, is prevented in the claimed methods or apparatus. The Examiner contends that column 7, lines 17-29 and column 9, lines 55-67 of the Locklear patent, prevent looping of the data. (See Paper No. 07202005, page 11.) Even assuming arguendo, that this is correct, such looping is only prevented ***after a session has been established.***

The specification of the present application describes scenarios under which data looping may occur. Specifically, the specification states:

> Recall from § 1.2.3.4 above that during a discovery stage of PPPoE, ***when a host (e.g., a terminal 1512) wants to establish a connection using PPPoE, it broadcasts a PPPoE Active Discovery Initiation (or "PADI") packet and one or more access concentrators may respond with a PPPoE Active Discovery Offer (or "PADO") packet. Due to the***

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> ***broadcast nature of the PPPoE Active Discovery Initiation (PADI) packets, each one of the ATU-R units 1516 will forward these packets and, consequently, receive PPPoE Active Discovery Offer (PADO) packets in response. When a response is received via one ATU-R, situations can result where the response is actually looped back to the other ATU-R***. This would occur if the user's Ethernet hub is a repeatered hub which sends all Ethernet frames it receives on one port out every other port. In turn, the Ethernet frame will cause the ATU-R which inadvertently receives the Ethernet frame to update its bridging table so that it believes the ISP's access router is now on the home LAN. This follows since it examines the Ethernet frame and sees a source MAC address that belongs to the ISP's router arriving on the port it uses to connect to the repeatered hub. This means that no traffic will flow through this ATU-R until such time as it receives an Ethernet frame, via the DSL line that it terminates, from the ISP's router. Hence, the ability to utilize a second DSL line can be significantly hampered by the looping of received traffic from the ISP. [Emphasis added]

Page 30, line 29 through page 31, line 23. In contrast, the Locklear patent discusses splitting packets among one or more active modems using session identifiers associated with the modems. As the Examiner notes, column 9, lines 55-67 show that a table associates modems with session identifiers. This means that the session has already been established. However, as explained above, prior to establishment of the session, each and every available modem forwards a session request. (Recall, e.g., column 5, lines 1-7.) Thus, even if the session tables prevent looping, they only do so *after* the session has already been established.

Similarly, claims 30-35 further specify that data looping in the system, caused by session establishment, is prevented because data, session requests, or PPPoE Active Discovery Offer packets are forwarded to only the selected one of at least two communications links and not to any non-selected communications links. These claims recite the data that is prevented from being looped, as well as the means by which such looping is prevented. Accordingly, these claims further patentably define the invention over the cited art.

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Conclusion

In view of the foregoing amendments and remarks, the applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, the applicant requests that the Examiner pass this application to issue.

Respectfully submitted,

October 27, 2005

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patents and Trademark Office on the date shown below.

Christian Andersen

October 27, 2005
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